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**THE TREATMENT OF HAY-FEVER BY MEANS
OF COCAINE PHENATE.**

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THE subject of hay-fever has been so thoroughly studied as to its etiology, pathology, and treatment, that one hesitates, even in the line of treatment, to bring forward anything new on the subject. The existence of many theories as to the cause, the pathology, and also of the various plans of treatment, points to the unsatisfactoriness of our treatment of this troublesome affection.

The theory advanced by Dr. Sajous appears to me to be the correct one—*i. e.*, that there are three essential features in the production of hay-fever: 1. An external irritant. 2. A predisposition on the part of the system to become influenced by this irritant. 3. A sensitive area through which the system becomes influenced by the irritant.

The best plan of treatment, both upon theoretic and practical grounds, is at once suggested—remove the sensitive area. Many patients object to the use of the cautery, and the physician has to resort to less radical treatment, the object of which should be to diminish the irritability of the sensitive areas. The chemical combination of carbolic acid and



cocaine would appear to form an admirable drug for this purpose.

Having used with success the aqueous extract of witch-hazel (selected on account of its astringent properties), I combined cocaine phenate with this drug. As the cocaine is insoluble in the witch-hazel, I first dissolved the former in alcohol, and then added it in the desired proportion to the witch-hazel. The solutions used varied in strength from 1 to 10 per cent. The cases in which this combination was used were those that refused treatment by cauterization of the sensitive areas. They were all characterized by the common symptoms of the disease, which are too well known to justify repetition. Three were cases in which the attacks were recent, that is, the disease appeared during the past year for the first time; and five cases varied from three to seven years in duration. In two there was hypertrophy of the middle turbinated, with marked thickening of the mucous membrane. In one there was slight deviation of the septum to the right; and in two cases there were marked asthmatic symptoms.

The plan of treatment was as follows: First, I cleansed the nasal mucous membrane with an alkaline solution. I then applied to the sensitive areas by means of cotton pledgets the 8 per cent. cocaine-solution, keeping this in contact with the parts for at least ten minutes, followed by a spray of a solution of the same strength. The result was a diminution of the hyperesthesia, lessened congestion, and relief of the constant coryza and sneezing that are so annoying in these cases. The treatment

failed to benefit the cases in which there was marked hypertrophy. I then removed the thickened membrane, and the result was a partial relief.

In the cases in which the solution was injected into the sensitive areas the results were more rapid. This accorded with the theory that has been advanced that the drug coagulates the albumin in the tissues, thereby rendering absorption slow, and leaving the cocaine in contact with the tissues for a longer time, with lessening of the danger of systemic action.

The effect was most marked in the cases characterized by reflex asthmatic symptoms. In these a spray of the 8 per cent. solution was used. In one patient, who for three years had suffered for from four to six weeks during the attack, the treatment began with the first appearance of the trouble, and in five days all symptoms disappeared, not to return.

The results in the other case were equally good, with a slight return after the patient had taken a long drive, and with exposure to the emanations of rag-weed. This was relieved by a few applications of the solution. This attack was slight, and characterized by a sensation of irritation, but by none of the marked symptoms that usually accompany this disease. Knowing how uncertain as to permanent results the treatment of hay-fever has been, we dare not draw too positive conclusions from these few cases. Possibly this treatment will only prove palliative, and the next season may be marked by a return of the disease, but even temporary relief is a source of great satisfaction. We are aware of the experience

of others, who, after having used a certain plan of treatment successfully in many cases, were doomed to disappointment by their *sure* cure failing in the next case, and by their *permanent* cure being followed by a prompt return of the disease the next year.

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